

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

AETHER THERAPEUTICS INC.,

Plaintiff,

v.

REDHILL BIOPHARMA INC.,

Defendant.

Case No.

Jury Trial Demanded

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Aether Therapeutics Inc., by and through its counsel, files this Complaint against RedHill Biopharma Inc. (“RedHill” and/or “Defendant”) for infringement of United States patent nos. 6,713,488 (“the ’488 patent”), 8,748,448 (“the ’448 patent”), 8,883,817 (“the ’817 patent”), and 9,061,024 (“the ’024 patent”) (collectively, the “patents-in-suit”), and alleges as follows:

NATURE OF THE ACTION

1. This is an action for infringement of the patents-in-suit arising under the patent laws of the United States, 35 U.S.C. §§ 100, *et seq.* Specifically, this action relates to patents directed to the use of naltrexone and naloxone analogs, which are neutral antagonists at the μ opioid receptor, for the treatment of various complications associated with the use of opioid agonists.

PARTIES

2. Plaintiff Aether Therapeutics Inc. is a Delaware corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 4200 Marathon Boulevard, Austin, Texas 78756.

3. On information and belief, RedHill is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 8045 Arco Corporate Drive, Suite 200 Raleigh, NC 27617.

4. As early as April 1, 2020 RedHill acquired the global rights, excluding Europe, Canada and Israel from AstraZeneca AB to Movantik[®] (naloxegol). *See* <https://www.redhillbio.com/RedHill/Templates/showpage.asp?DBID=1&LNGID=1&TMID=178&FID=2432&PID=0&IID=15254>.

5. RedHill, distributes, sells, and/or imports drug products for the entire United States market and does business in every state, including Delaware, either directly or indirectly.

JURISDICTION AND VENUE

6. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this is a patent infringement action that arises under the patents laws of the United States, 35 U.S.C. §§ 100 *et seq.*

7. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b), (c), (d) and/or 1400(b) because, among other things, RedHill is incorporated in the State of Delaware and, therefore, resides in this judicial district.

PERSONAL JURISDICTION OVER REDHILL

8. Plaintiff incorporates each of the preceding paragraphs as if fully set forth here.

9. This Court has personal jurisdiction over RedHill, in part, because a substantial part of the events giving rise to the claims alleged in this Complaint for which RedHill is responsible individually occurred in Delaware.

10. Specifically, RedHill's drug product Movantik[®] is used and/or consumed within and throughout the United States, including in Delaware. On information and belief, Movantik[®] is administered by medical professionals practicing in Delaware, dispensed by pharmacies located within Delaware, and used by patients in Delaware. Each of these activities has a substantial effect within Delaware, as they constitute infringement, directly and indirectly, of the patents-in-suit.

11. Additionally, RedHill sells other pharmaceutical products and does business throughout the United States, including Delaware.

12. Further, RedHill previously consented to the jurisdiction of the United States District Court for the District of Delaware and asserted claims in lawsuits filed in the district. *See, e.g., AstraZeneca AB et al. v. Aurobindo Pharma USA Inc.*, No. 19-cv-02113 (D. Del. 2019); *AstraZeneca AB et al. v. Apotex Inc. et al.*, No. 18-cv-02010 (D. Del. 2018); and *AstraZeneca AB et al. v. MSN Pharmaceuticals, Inc. et al.*, No. 18-cv-02051 (D. Del. 2018).

13. Thus, RedHill has purposefully availed itself of the privileges of conducting business in Delaware and within this judicial district; has established sufficient minimum contacts in Delaware and within this judicial district such that it should reasonably and fairly anticipate being in court in Delaware and in this judicial district; has purposefully directed activities at residents of Delaware and this judicial district; and at least a portion of the patent infringement claims alleged herein arise out of or are related to one or more of the foregoing activities.

14. Accordingly, this Court has personal jurisdiction over RedHill because on information and belief, RedHill: (1) has committed acts of patent infringement, individually, in active concert or jointly in the State of Delaware and in this judicial district; (2) has substantial, regularly conducted and systematic business contacts in the State of Delaware and in this judicial district; (3) owns, manages, and markets Movantik[®] products in the State of Delaware and in this judicial district; and (4) enjoys substantial income from the sale of Movantik[®] products in the State of Delaware and in this judicial district.

BACKGROUND

The Patents-in-Suit

15. Wolfgang Sadee, Dr. rer. nat., is Professor and Vice-Chair, Cancer Biology and Genetics, in the College of Medicine, at The Ohio State University, previously the Felts Mercer Professor of Medicine and Pharmacology with appointments in Psychiatry, Pharmacy, and Public Health, the Davis Heart & Lung Research Institute, and Ohio State University Comprehensive Cancer Center.

16. Dr. Sadee received a doctorate degree in Pharmaceutical Chemistry from Freie Universität Berlin in 1968, and then served on the pharmacy faculties at the University of Southern California and University of California-San Francisco until 2002. Dr. Sadee's research interests include pharmacogenetics-pharmacogenomics of drug receptors and transporters, genetics of drug addiction, central nervous system disorders, cardiovascular diseases, cancer and chemogenomics and anticancer drug discovery, and development of drug addiction treatments.

17. Dr. Sadee has published over 400 research papers, chapters, and monographs, and he holds multiple patents. As part of his research, Dr. Sadee developed novel drug candidates for opioid induced bowel dysfunction, opioid addiction, and neonatal abstinence syndrome.

18. To further the development of his research efforts, Dr. Sadee co-founded Aiko Biotechnology ("Aiko") with Edward Bilsky, Ph.D in 2006 with the hope that commercialization could provide the funding necessary to continue their critical research.

19. Aiko was a drug discovery company founded to characterize and validate therapeutic candidates for the management of pain, addiction, and adverse side effects resulting from prescription opioid pain reliever use. Its ultimate goal was to obtain FDA approval for its product.

20. Aiko continued to develop this opioid receptor pharmacology, and Aiko documented this research in the papers and patents of Drs. Sadee, Bilsky, Wang, and Yancey-Wrona.

21. Accordingly, the patents-in-suit are the result of the inventors' years of researching, designing, and developing therapeutic drug candidates for the treatment of pain, addiction, and side effects associated with opioid use.

22. Dr. Sadee co-founded Aether Therapeutics to develop further the novel patented drug technology that he and his co-inventors and colleagues had been researching and developing, and Aether's ultimate goal remains obtaining FDA approval for its drug candidates so that millions of people can benefit from Dr. Sadee's groundbreaking research.

United States Patent No. 6,713,488

23. U.S. patent no. 6,713,488, entitled "Neutral antagonists and use thereof in treating drug abuse," (attached as Exhibit 1), was duly and legally issued on March 30, 2004.

24. The inventors named on the '488 patent are Wolfgang Sadee and Danxin Wang.

25. The '488 patent will expire on March 15, 2021.

26. The '488 patent covers the use of naltrexone and naloxone analogs, which are neutral antagonists at the μ opioid receptor, for the treatment of various side effects associated with opioid use.

27. The claims of the '488 patent are valid, enforceable, and not expired.

28. All rights, title and interests in the '488 patent are owned by and assigned to Aether.

United States Patent No. 8,748,448

29. U.S. patent no. 8,748,448, entitled “Combination analgesic employing opioid agonist and neutral antagonist,” (attached as Exhibit 2), was duly and legally issued on June 10, 2014.

30. The ’448 patent will expire on October 17, 2028.

31. The inventors named on the ’448 patent are Wolfgang Sadee, Edward Bilsky, and Janet Yancey-Wrona.

32. The ’448 patent covers the use of non-addictive analgesic co-formulation, co-administration and separate, but overlapping administration comprising an opioid agonist and a neutral opioid antagonist to inhibit peripheral and central effects of the opioid in a mammalian subject (such as a human).

33. The claims of the ’448 patent are valid, enforceable, and not expired.

34. The ’448 patent claims priority to U.S. Provisional Patent Application No. 60/981,034, filed October 18, 2007.

35. All rights, title and interests in the ’448 patent are owned by and assigned to Aether Therapeutics.

United States Patent No. 8,883,817

36. U.S. patent no. 8,883,817, entitled “Combination analgesic employing opioid and neutral antagonist,” (attached as Exhibit 3), was duly and legally issued on November 11, 2014.

37. The ’817 patent will expire on May 18, 2031.

38. The inventors named on the ’817 patent are Wolfgang Sadee, Edward Bilsky, and Janet Yancey-Wrona.

39. The ’817 patent covers a non-addictive analgesic co-formulation, co-administration and separate, but overlapping administration comprising an opioid agonist in an

amount sufficient to confer analgesia in a mammalian subject and a neutral opioid antagonist in an amount sufficient to inhibit peripheral effects, and insufficient to block substantial central effects, of the opioid agonist in the subject.

40. The claims of the '817 patent are valid, enforceable, and not expired.

41. The '817 patent ultimately claims priority to U.S. Provisional Patent Application No. 60/981,034, filed October 18, 2007.

42. All rights, title and interests in the '817 patent are owned by and assigned to Aether.

United States Patent No. 9,061,024

43. U.S. patent no. 9,061,024, entitled "Combination analgesic employing opioid and neutral antagonist," (attached as Exhibit 4), was duly and legally issued on June 23, 2015.

44. The '024 patent will expire on October 17, 2028.

45. The inventors named on the '024 patent are Wolfgang Sadee, Edward Bilsky, and Janet Yancey-Wrona.

46. The '024 patent covers a method of providing an opioid agonist to a mammalian subject in a manner that inhibits peripheral effects of the opioid agonist, without blocking substantial central effects.

47. The claims of the '024 patent are valid, enforceable, and not expired.

48. The '024 patent ultimately claims priority to U.S. Provisional Patent Application No. 60/981,034, filed October 18, 2007.

49. All rights, title and interests in the '024 patent are owned by and assigned to Aether Therapeutics.

Movantik[®]

50. On information and belief, Defendant sells Movantik[®] with an insert containing Prescribing Information (the “Movantik[®] Label”), which details, among other things, the indication, dosing and risks associated with Movantik[®]. *See generally* Movantik[®] Label (attached as Exhibit 5) and <https://movantik.com/>.

51. The Movantik[®] Label states that Movantik[®] is indicated for the treatment of opioid-induced constipation (OIC) in adult patients with chronic non-cancer pain. Movantik[®] Label at 1 (Indications and Usage).

52. Movantik[®] (naloxegol) tablets for oral use contain 14.2 mg and 28.5 mg of naloxegol oxalate, respectively equivalent to 12.5 mg and 25 mg of naloxegol. *Id.* at 9 (Description).

53. The recommended daily dosage for Movantik[®] is 25 mg taken once daily in the morning. *Id.* at 2 (Adult Dosage).

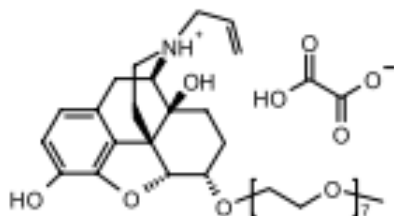
54. Movantik[®] is taken on an empty stomach at least 1 hour prior to the first meal of the day or 2 hours after the meal. *Id.* at 2 (Administration).

55. Movantik[®]’s active ingredient is naloxegol. *Id.* at 19.

56. Naloxegol is a PEGylated analog of naloxone. *See* Nektar 2006 Annual Report, p. 5 (2006) (attached as Exhibit 6).

57. Naloxegol has the following chemical structure:

The chemical name for naloxegol oxalate is: (5 α ,6 α)-17-allyl-6-(2,5,8,11,14,17,20-heptaadecan-22-yloxy)-4,5-epoxymorphinan-3,14-diol oxalate. The structural formula is:



The empirical formula for naloxegol oxalate is $C_{34}H_{53}NO_{11} \cdot C_2H_2O_4$ and the molecular weight is 742.

See Movantik[®] Label at 8-9 (Description).

58. Naloxegol is a neutral competitive antagonist of the μ -opioid receptor. *See id.*

59. Naloxegol functions as a peripherally-acting μ -opioid receptor antagonist in tissues such as the gastrointestinal tract, thereby decreasing the constipating effects of opioids. *Id.*

Notice of the Patents-in-Suit and Willful Infringement

60. On March 18, 2020 Plaintiff filed suit against AstraZeneca AB, AstraZeneca Pharmaceuticals LP, Nektar Therapeutics, LLC and Daiichi-Sankyo, Inc. for infringement of the patents-in-suit. *See, e.g., Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020) at D.I. 1.

61. On June 11, 2020 Plaintiff filed a First Amended Complaint against AstraZeneca AB, AstraZeneca Pharmaceuticals LP, Nektar Therapeutics, LLC and Daiichi-Sankyo, Inc. for infringement of the patents-in-suit. *Id.* at D.I. 19.

62. On information and belief, at a time before April 1, 2020, RedHill and AstraZeneca AB and AstraZeneca Pharmaceuticals entered discussions about an acquisition of the rights to commercialize Movantik[®].

63. On information and belief, at a time before April 1, 2020, RedHill conducted due diligence regarding a potential agreement with AstraZeneca AB and AstraZeneca Pharmaceuticals for the acquisition of the rights to commercialize Movantik[®].

64. On information and belief, at a time before April 1, 2020, AstraZeneca AB and AstraZeneca Pharmaceuticals representatives provided to an employee or employees of RedHill a copy of the Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

65. On information and belief, on or about June 11, 2020, AstraZeneca AB and AstraZeneca Pharmaceuticals representatives provided to an employee or employees of RedHill a copy of the First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

66. On information and belief, at a time before April 1, 2020, employees of RedHill read, in whole or in part, the Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

67. On information and belief, on or about June 11, 2020, employees of RedHill read, in whole or in part, the First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

68. On information and belief, at a time on or before April 1, 2020, RedHill had actual knowledge of the Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

69. On information and belief, at a time on or before April 1, 2020, RedHill had actual knowledge of the patents-in-suit.

70. On information and belief, at a time before June 11, 2020, RedHill had actual knowledge of the patents-in-suit.

PATENT INFRINGEMENT

Count I: Infringement of United States Patent No. 6,713,488
by RedHill

71. Plaintiff incorporates each of the preceding paragraphs as if fully set forth herein.

72. On information and belief, and without authority, consent, right, or license, RedHill infringes one or more claims, including claims 25, 26 and 29, of the '488 patent by actively inducing infringement by others under § 271(b) and/or contributing to infringement under § 271(c) by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '488 patent. RedHill itself has alleged that these types of activities are infringing or induce infringement in Hatch-Waxman patent infringement cases against generic pharmaceutical companies. *See, e.g., AstraZeneca AB et al. v. Aurobindo Pharma USA Inc.*, No. 19-cv-02113 (D. Del. 2019); *AstraZeneca AB et al. v. Apotex Inc. et al.*, No. 18-cv-02010 (D. Del. 2018); and *AstraZeneca AB et al. v. MSN Pharmaceuticals, Inc. et al.*, No. 18-cv-02051 (D. Del. 2018).

73. For example, claim 25 of the '488 patent covers:

A method of alleviating adverse effects associated with opioid use by an individual in need thereof comprising administration to the individual of a therapeutically effective amount of a naloxone analog or naltrexone analog or a pharmaceutically acceptable salt thereof which is a neutral antagonist at the μ opioid receptor.

74. Movantik[®] and its use meet the claim requirement for “[a] method of alleviating adverse effects associated with opioid use by an individual in need thereof” as evidenced by the Movantik[®] Label, which states that:

Movantik[®] is an opioid antagonist indicated for the treatment of opioid-induced constipation (OIC) in adults patients with chronic non-cancer pain, including patients with chronic pain related to prior cancer or its treatment who do not require frequent

opioid dosage escalation. Movantik[®] is indicated for treatment of opioid-induced constipation (OIC) in adult patients with chronic non-cancer pain, including patients with chronic pain related to prior cancer or its treatment who do not require frequent opioid dosage escalation.

See Movantik[®] Label at 1, 2.

75. Movantik[®] and its use meet the claim requirement for “administration to the individual of a therapeutically effective amount of a naloxone analog or naltrexone analog or a pharmaceutically acceptable salt thereof” as evidenced by the label, which states that Movantik[®] (naloxegol), an opioid antagonist, contains naloxegol oxalate as the active ingredient and further provides a therapeutically effective amount as it sets forth the recommended daily dosage. *Id.* at 9 and *see* Exhibit 6 at 5 (“NKTR-118 is an oral PEGylated formulation of an analog of naloxone.”).

76. The chemical structure of naloxegol, which is the active ingredient in Movantik[®], falls within the chemical structure of Formula 1 of the naloxone analogs described in the ’488 patent at Col. 5, ll. 65 – Col. 6, ll. 43.

77. The naloxegol compound present in Movantik[®] meets the claim requirement for “a neutral antagonist at the μ opioid receptor” as publicly available literature notes that “Naloxegol binds to the human μ opioid receptor with high affinity, acting as a competitive neutral antagonist.” *See* Floettmann et al., *Pharmacologic Profile of Naloxegol, a Peripherally Acting μ -Opioid Receptor Antagonist, for the Treatment of Opioid-Induced Constipation*, 361 J. OF PHARMACOL AND EXP THER, 280-91 (2017) (“Floettmann”)(attached as Exhibit 7).

78. RedHill has been on notice of the ’488 patent since, at the latest, the date RedHill received from Plaintiff the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

79. On information and belief, RedHill has not altered its infringing conduct after receiving the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

80. On information and belief, RedHill has not altered its infringing conduct after receiving notice of the '488 patent.

81. In particular, RedHill, alone and/or in concert with other parties, instructs prescribers and patients through the Movantik[®] label how to use Movantik[®] through methods that infringe the '488 patent. On information and belief, RedHill knows that the Movantik[®] Label induces infringement of the '488 patent.

82. RedHill, acting without authority, consent, right, or license of the '488 patent, has induced, and continues to induce patients to administer and use Movantik[®], which directly infringes one or more claims of the '488 patent resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(b). More specifically, patients and medical professionals directly infringe (literally and/or under the doctrine of equivalents) at least claims 25, 26 and 29 of the '488 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

83. RedHill possessed, and continues to possess, specific intent to induce infringement by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '488 patent.

84. RedHill has actively induced and encouraged, and continues to actively induce and encourage, medical professionals to prescribe Movantik[®] to patients, and patients to use Movantik[®] by marketing, promoting and advertising the infringing use of Movantik[®].

85. On information and belief, RedHill knows that Movantik[®] and its labeling are especially made or adapted for use in infringing the '488 patent, that Movantik[®] is not a staple article or commodity of commerce, and that Movantik[®] and its labeling are not suitable for substantial noninfringing use, resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(c). More specifically, patients or medical professionals directly infringe (literally and/or under the doctrine of equivalents) at least claims 25, 26 and 29 of the '488 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

86. RedHill's foregoing actions constitute and/or will constitute infringement of the '488 patent, active inducement of infringement of the '488 patent, and contribution to the infringement by others of the '488 patent.

87. On information and belief, RedHill has acted with full knowledge of the '488 patent and without a reasonable basis for believing that they would not be liable for infringement of the '488 patent, active inducement of infringement of the '488 patent, and/or contribution to the infringement by others of the '488 patent.

88. Plaintiff reserves the right to assert additional claims of the '488 patent that RedHill infringes.

89. Plaintiff has been damaged as a result of RedHill's infringing conduct. RedHill is, thus, liable to Plaintiff in an amount that adequately compensates for its infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

**Count II: Infringement of United States Patent No. 8,748,448
by RedHill**

90. Plaintiff incorporates each of the preceding paragraphs as if fully set forth herein.

91. On information and belief, and without authority, consent, right, or license, RedHill infringes one or more claims, including claims 1, 2, 4, 5, 9 and 11, of the '448 patent under § 271(a), either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or importing Movantik[®], and/or by actively inducing infringement by others under § 271(b) and/or contributing to infringement under § 271(c) by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '448 patent. RedHill itself has clearly indicated these activities are infringing or would be infringement in ANDA cases against Generic Pharmaceutical companies. *See, e.g., AstraZeneca AB et al. v. Aurobindo Pharma USA Inc.*, No. 19-cv-02113 (D. Del. 2019); *AstraZeneca AB et al. v. Apotex Inc. et al.*, No. 18-cv-02010 (D. Del. 2018); and *AstraZeneca AB et al. v. MSN Pharmaceuticals, Inc. et al.*, No. 18-cv-02051 (D. Del. 2018).

92. For example, claim 1 covers:

A unit dosage of an analgesic composition, formulated for oral administration to a subject, comprising: (a) an opioid agonist in an amount sufficient to confer analgesia in the subject; (b) a non-aversive neutral opioid antagonist in an amount sufficient to substantially inhibit peripheral effects and insufficient to block substantial central effects of the agonist in the subject, wherein the amounts of the neutral opioid antagonist and the opioid agonist are selected so that a weight/weight (w/w) ratio of (1) an amount of 6β-naltrexol equivalent to the amount of neutral opioid antagonist divided by (2) an amount of morphine equivalent to the opioid agonist is at least 1.0, and the opioid antagonist is selected to have a blood half-life that is substantially longer than the blood half-life of the opioid agonist, so as to deter abuse resulting from overly frequent administration of the unit dosage; and (c) a pharmaceutically acceptable carrier.

93. The '448 patent directly teaches “co-administration of the agonist with the antagonist, or separate but overlapping administration of the agonist with the neutral antagonist, wherein such co-formulation, co-administration or separate administration is uniquely designed to address both addiction liability of the opioid and peripheral side effects, such as constipation.” *See '448 patent at Col. 2, ll. 55-63.*

94. Movantik[®] meets the requirement for a unit dosage of an analgesic composition having “an opioid agonist in an amount sufficient to confer analgesia in the subject” as evidenced by the Movantik[®] website, which directs patients and doctors as to the use and administration of Movantik[®]: “Movantik[®] is used with an analgesic, which would be expected to be in an amount sufficient to confer analgesia to the subject.” See <https://www.movantik.com/about.html>. In fact, the Movantik[®] Label specifically discusses the co-administration of an analgesic including, for example, Morphine. See Movantik[®] Label at 12.3.

95. The chemical structure of naloxegol, which is the active ingredient in Movantik[®], falls within the chemical structure of Formula 1β of the naloxone analogs described in the ’448 patent, col. 5, ll. 53 – col. 6, ll. 52.

96. Movantik[®] meets the requirement for a unit dosage having “a non-aversive neutral opioid antagonist in an amount sufficient to substantially inhibit peripheral effects and insufficient to block substantial central effects of the agonist in the subject” as evidenced by the literature stating that “[n]aloxegol functions as a peripherally-acting μ-opioid receptor agonist in tissues such as the gastrointestinal tract, thereby decreasing the constipating effects of opioids.” See Movantik[®] Label at 10; See also Exhibit 7, *Floettmann* at 280 (“Naloxegol binds to the human μ opioid receptor with high affinity, acting as a competitive neutral antagonist.”)

97. Movantik[®] meets the requirement for a unit dosage having “the amounts of the neutral opioid antagonist and the opioid agonist . . . selected so that a weight/weight (w/w) ratio of (1) an amount of 6β-naltrexol equivalent to the amount of neutral opioid antagonist divided by (2) an amount of morphine equivalent to the opioid agonist is at least 1.0, and the opioid antagonist is selected to have a blood half-life that is substantially longer than the blood half-life of the opioid agonist, so as to deter abuse resulting from overly frequent administration of the

unit dosage” as evidenced by the label stating that “[p]atients receive an opioid morphine equivalent daily dose of between 30 mg and 1,000 mg for at least four weeks before enrollment and self-reported OIC were eligible to participate. A total of 652 patients in Study 1 and 700 patients in Study 2 were randomized in a 1:1:1 ration to receive 12.5 mg or 25 mg of Movantik[®] or placebo once daily for 12 weeks.” *See* Movantik[®] Label at 17. The Movantik[®] Label specifically discusses the co-administration of an analgesic within the claimed weight ratios including, for example, Morphine. *See* Movantik[®] Label at 12.3.

98. Movantik[®] meets the requirement for a unit dosage having “a pharmaceutically acceptable carrier” as evidenced by the label stating that “[t]he tablet core contains mannitol, cellulose microcrystalline, croscarmellose sodium, magnesium stearate, and propyl gallate. The tablet coat contains hypromellose, titanium dioxide, polyethylene glycol, iron oxide red, and iron oxide black” (“Movantik (naloxegol) is available in two strengths: Tablets: 12.5 mg supplied as mauve, oval, biconvex, film-coated, intagliated with “nGL” on one side and “12.5” on the other side. Tablets: 25 mg supplied as mauve, oval, biconvex, film-coated, intagliated with “nGL” on one side and “25” on the other side.”) *See Id.* at 3 and 19.

99. On information and belief, the analgesics co-administered with Movantik[®] include a pharmaceutically acceptable carrier.

100. RedHill has been on notice of the ’448 patent since, at the latest, the date RedHill received from Plaintiff the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

101. On information and belief, RedHill has not altered its infringing conduct after receiving the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

102. On information and belief, RedHill has not altered its infringing conduct after receiving notice of the '448 patent.

103. On information and belief, RedHill knows that the Movantik[®] Label induces infringement of the '448 patent.

104. RedHill, acting without authority, consent, right, or license of the '448 patent, has induced, and continues to induce patients to administer and use Movantik[®] in co-administration or concomitant administration with an opioid agonist in a manner that directly infringes one or more claims of the '448 patent, resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(b). More specifically, patients and medical professionals directly infringe (literally and/or under the doctrine of equivalents) at least claims 1, 2, 4, 5, 9 and 11 of the '448 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

105. RedHill possessed, and continue to possess, specific intent to induce infringement by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '448 patent.

106. RedHill, alone and/or in concert with the other parties, has actively induced and encouraged, and continue to actively induce and encourage, medical professionals to prescribe Movantik[®] to patients, and patients to use Movantik[®] by marketing, promoting and advertising the infringing use of Movantik[®].

107. On information and belief, RedHill knows that Movantik[®] and its labeling are especially made or adapted for uses that infringe the '448 patent, that Movantik[®] is not a staple article or commodity of commerce, and that Movantik[®] and its labeling are not suitable for substantial noninfringing use, resulting in conduct that constitutes, at a minimum, patent

infringement under 35 U.S.C. § 271(c). More specifically, patients directly infringe (literally and/or under the doctrine of equivalents) at least claims 1, 2, 4, 5, 9 and 11 of the '448 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

108. RedHill's foregoing actions constitute and/or will constitute infringement of the '448 patent, active inducement of infringement of the '448 patent, and contribution to the infringement by others of the '448 patent.

109. On information and belief, RedHill has acted with full knowledge of the '448 patent and without a reasonable basis for believing that they would not be liable for infringement of the '448 patent; active inducement of infringement of the '448 patent; and/or contribution to the infringement by others of the '448 patent.

110. Plaintiff reserves the right to assert additional claims of the '448 patent that RedHill infringes.

111. Plaintiff has been damaged as a result of RedHill's infringing conduct. AstraZeneca AB is, thus, liable to Plaintiff in an amount that adequately compensates for their infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

**Count III: Infringement of United States Patent No. 8,883,817
by RedHill**

112. Plaintiff incorporates each of the preceding paragraphs as if fully set forth herein.

113. On information and belief, and without authority, consent, right, or license, RedHill infringes one or more claims, including 1, 2, 3, 4, 6, 7, 11, 15, 16, 19, 20, 21, 22, and 25, of the '817 patent under § 271(a), either literally or under the doctrine of equivalents, by making, using, offering to sell, selling and/or importing of Movantik[®], and/or by actively inducing

infringement by others under § 271(b) and/or contributing to infringement under § 271(c) by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '817 patent. RedHill has clearly indicated these activities are infringing or would be infringement in ANDA cases against Generic Pharmaceutical companies. *See, e.g., AstraZeneca AB et al. v. Aurobindo Pharma USA Inc.*, No. 19-cv-02113 (D. Del. 2019); *AstraZeneca AB et al. v. Apotex Inc. et al.*, No. 18-cv-02010 (D. Del. 2018); and *AstraZeneca AB et al. v. MSN Pharmaceuticals, Inc. et al.*, No. 18-cv-02051 (D. Del. 2018).

114. For example claim 1 covers:

A unit dosage of an analgesic composition comprising: an opioid agonist in an amount sufficient to confer analgesia in a mammalian subject; and a neutral opioid antagonist in an amount sufficient to substantially inhibit peripheral effects, and insufficient to block substantial central effects, of the opioid agonist in the subject, wherein the agonist and antagonist are selected so that a ratio of antinociception ID₅₀ to GI transit ID₅₀ for the agonist and the antagonist is between about 5 and about 50.

115. The '817 patent directly teaches “co-administration of the agonist with the antagonist, or separate but overlapping administration of the agonist with the neutral antagonist, wherein such co-formulation, co-administration or separate administration is uniquely designed to address both addiction liability of the opioid and peripheral side effects, such as constipation.” *See* '817 patent at col. 2, ll. 12-18.

116. The chemical structure of naloxegol, which is the active ingredient in Movantik[®], falls within the chemical structure of Formula 1β of the naloxone analogs described in the '817 patent, col. 3, ll. 52 – col. 4, ll. 52.

117. Movantik[®] meets the requirement for a unit dosage of an analgesic composition comprising “an opioid agonist in an amount sufficient to confer analgesia in a mammalian subject” as evidenced by the Movantik[®] website, which directs patients and doctors as to the use

and administration of Movantik[®]: “Movantik[®] is used with an analgesic, which would be expected to be in an amount sufficient to confer analgesia to the subject.” *See* <https://www.movantik.com/about.html>. In fact, the Movantik[®] Label specifically discusses the co-administration of an analgesic including, for example, Morphine. *See* Movantik[®] Label at 12.3.

118. Movantik[®] meets the requirement for “a neutral opioid antagonist in an amount sufficient to substantially inhibit peripheral effects, and insufficient to block substantial central effects, of the opioid agonist in the subject” as evidenced by the Movantik[®] Label, which states that “[n]aloxegol functions as a peripherally-acting μ -opioid receptor agonist in tissues such as the gastrointestinal tract, thereby decreasing the constipating effects of opioids.” *See Id.* at 10; *see also* Exhibit 7, *Floettmann* at 280 (“Naloxegol binds to the human μ opioid receptor with high affinity, acting as a competitive neutral antagonist.”)

119. Movantik[®] includes an “agonist and antagonist are selected so that a ratio of antinociception ID₅₀ to GI transit ID₅₀ for the agonist and the antagonist is between about 5 and about 50” as evidenced by the Movantik[®] Label, which states that “[a]lteration in analgesic dosing regimen prior to initiating Movantik is not required” (*see* Movantik[®] Label at 2) and noting specifically that administration at recommended levels limits “potential for interference with centrally mediated opioid analgesia.” *Id.* at 9. The Movantik[®] Label specifically discusses the co-administration of an analgesic, within the ratios claimed, including, for example, Morphine. *See* Movantik[®] Label at 12.3.

120. RedHill has been on notice of the ’817 patent since, at the latest, the date RedHill received from Plaintiff the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

121. On information and belief, RedHill has not altered its infringing conduct after receiving the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

122. On information and belief, RedHill has not altered its infringing conduct after receiving notice of the '817 patent.

123. On information and belief, RedHill knows that the Movantik[®] Label induces infringement of the '817 patent.

124. RedHill, acting without authority, consent, right, or license of the '817 patent, have induced, and continues to induce patients to administer and use Movantik[®], in co-administration or separate concomitant administration with an opioid agonist in a manner that directly infringes one or more claims of the '817 patent, resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(b). More specifically, patients directly infringe (literally and/or under the doctrine of equivalents) at least 1, 2, 3, 4, 6, 7, 11, 15, 16, 19, 20, 21, 22, and 25 of the '817 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

125. RedHill possessed, and continue to possess, specific intent to induce infringement by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '817 patent.

126. RedHill, alone and/or in concert with other parties, has actively induced and encouraged, and continue to actively induce and encourage, medical professionals to prescribe Movantik[®] to patients, and patients to use Movantik[®] by marketing, promoting and advertising the infringing use of Movantik[®].

127. On information and belief, RedHill knows that Movantik[®] and its labeling are especially made or adapted for uses that infringe the '817 patent, that Movantik[®] is not a staple article or commodity of commerce, and that Movantik[®] and its labeling are not suitable for substantial noninfringing use, resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(c). More specifically, patients directly infringe (literally and/or under the doctrine of equivalents) at least 1, 2, 3, 4, 6, 7, 11, 15, 16, 19, 20, 21, 22, and 25 of the '817 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(c).

128. RedHill's foregoing actions constitute and/or will constitute infringement of the '817 patent; active inducement of infringement of the '817 patent; and contribution to the infringement by others of the '817 patent.

129. On information and belief, RedHill has acted with full knowledge of the '817 patent and without a reasonable basis for believing that it would not be liable for infringement of the '817 patent, active inducement of infringement of the '817 patent, and/or contribution to the infringement by others of the '817 patent.

130. Plaintiff reserves the right to assert additional claims of the '817 patent that RedHill infringes.

131. Plaintiff has been damaged as a result of RedHill's infringing conduct. RedHill is, thus, liable to Plaintiff in an amount that adequately compensates for their infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

**Count IV: Infringement of United States Patent No. 9,061,024
by RedHill**

132. Plaintiff incorporates each of the preceding paragraphs as if fully set forth here.

133. On information and belief, and without authority, consent, right, or license, RedHill infringes one or more claims, including claims 1, 3, 4, 5, 7, and 9 of the '024 patent by actively inducing infringement by others under § 271(b) and/or contributing to infringement under § 271(c) by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '024 patent. RedHill itself has clearly indicated these activities are infringing or would be infringement in ANDA cases against Generic Pharmaceutical companies. *See, e.g., AstraZeneca AB et al. v. Aurobindo Pharma USA Inc.*, No. 19-cv-02113 (D. Del. 2019); *AstraZeneca AB et al. v. Apotex Inc. et al.*, No. 18-cv-02010 (D. Del. 2018); and *AstraZeneca AB et al. v. MSN Pharmaceuticals, Inc. et al.*, No. 18-cv-02051 (D. Del. 2018).

134. For example, claim 1 covers:

A method of providing an opioid agonist to a mammalian subject in a manner that inhibits peripheral effects of the opioid agonist, without blocking substantial central effects, the method comprising: orally administering to the subject at least one unit dosage of an analgesic composition, formulated for oral administration, the unit dosage including: (a) the opioid agonist in an amount sufficient to confer analgesia in the subject; (b) a non-aversive neutral opioid antagonist in an amount sufficient to substantially inhibit peripheral effects and insufficient to block substantial central effects of the agonist in the subject, the opioid antagonist selected to have an access to a central nervous system of the subject that is weak compared to access by the opioid agonist; wherein the amounts of the neutral opioid antagonist and the opioid agonist are selected so that a weight/weight (w/w) ratio of (1) an amount of 6 β -naltrexol equivalent to the amount of neutral opioid antagonist divided by (2) an amount of morphine equivalent to the opioid agonist is at least 0.15; and (c) a pharmaceutically acceptable carrier.

135. The '024 patent directly teaches “co-administration of the agonist with the antagonist, or separate but overlapping administration of the agonist with the neutral antagonist, wherein such co-formulation, co-administration or separate administration is uniquely designed to address both addiction liability of the opioid and peripheral side effects, such as constipation.” *See* '024 patent at col. 2, ll. 57-64.

136. The chemical structure of naloxegol, which is the active ingredient in Movantik[®], falls within the chemical structure of Formula 1β of the naloxone analogs described in the '024 patent, col. 5, ll. 52 – col. 6, ll. 53.

137. Movantik[®] and its use meet the requirement for “[a] method of providing an opioid agonist to a mammalian subject in a manner that inhibits peripheral effects of the opioid agonist, without blocking substantial central effects, the method comprising:” as evidenced by the Movantik[®] website, which directs patients and doctors as to the use and administration of Movantik[®]: “Naloxegol is an antagonist of opioid binding at the mu-opioid receptor. When administered at the recommended dose levels, naloxegol functions as a peripherally-acting mu-opioid receptor antagonist in tissues such as the gastrointestinal tract, thereby decreasing the constipating effects of opioids. . . . Due to the reduced permeability and increased efflux of naloxegol across the blood-brain barrier, related to P-gp substrate properties, the CNS penetration of naloxegol is expected to be negligible at the recommended dose levels limiting the potential for interference with centrally mediated opioid analgesia.” *See* Movantik[®] Label at 9. In fact, the Movantik[®] Label specifically discusses the co-administration of an analgesic including, for example, Morphine. *See* Movantik[®] Label at 12.3.

138. Movantik[®] and its use meet the requirement for “orally administering to the subject at least one unit dosage of an analgesic composition, formulated for oral administration” as evidenced by the Movantik[®] Label, which directs the oral administration of Movantik[®] in combination with an opioid agonist. *Id.* at 2. (“Alteration in analgesic dosing regimen prior to initiating Movantik is not required.”)

139. Movantik[®] and its use meet the requirement for unit dosage having “the opioid agonist in an amount sufficient to confer analgesia in the subject” as evidenced by the Movantik[®]

Label, which states that “Movantik is used with an analgesic, which would be expected to be in an amount sufficient to confer analgesia to the subject.” *Id.* at 10. The Movantik[®] Label specifically discusses the co-administration of an analgesic including, for example Morphine. *See* Movantik[®] Label at 12.3.

140. Movantik[®] and its use meet the requirement for unit dosage having “a non-aversive neutral opioid antagonist in an amount sufficient to substantially inhibit peripheral effects and insufficient to block substantial central effects of the agonist in the subject, the opioid antagonist selected to have an access to a central nervous system of the subject that is weak compared to access by the opioid agonist” as evidenced by the Movantik[®] Label, which states that “Naloxegol functions as a peripherally-acting μ -opioid receptor agonist in tissues such as the gastrointestinal tract, thereby decreasing the constipating effects of opioids.” *See Id.* at 10.

141. Movantik[®] and its use meet the requirement for unit dosage having, “the amounts of the neutral opioid antagonist and the opioid agonist . . . selected so that a weight/weight (w/w) ratio of (1) an amount of 6 β -naltrexol equivalent to the amount of neutral opioid antagonist divided by (2) an amount of morphine equivalent to the opioid agonist is at least 0.15” as evidenced by the Movantik[®] Label, which states that “[p]atients receive an opioid morphine equivalent daily dose of between 30 mg and 1,000 mg for at least four weeks before enrollment and self-reported OIC were eligible to participate. A total of 652 patients in Study 1 and 700 patients in Study 2 were randomized in a 1:1:1 ratio to receive 12.5 mg or 25 mg of Movantik[®] or placebo once daily for 12 weeks.” *See Id.* at 17. The Movantik[®] Label specifically discusses the co-administration of an analgesic, within the weight ranges claimed, including, for example, Morphine. *See* Movantik[®] Label at 12.3.

142. Movantik[®] and its use meet the requirement for unit dosage having “a pharmaceutically acceptable carrier” as evidenced by the label stating that “[t]he tablet core contains mannitol, cellulose microcrystalline, croscarmellose sodium, magnesium stearate, and propyl gallate. The tablet coat contains hypromellose, titanium dioxide, polyethylene glycol, iron oxide red, and iron oxide black. Movantik (naloxegol) is available in two strengths: Tablets: 12.5 mg supplied as mauve, oval, biconvex, film-coated, intagliated with “nGL” on one side and “12.5” on the other side. Tablets: 25 mg supplied as mauve, oval, biconvex, film-coated, intagliated with “nGL” on one side and “25” on the other side.” *See Id.* at 3, 19.

143. On information and belief, the analgesics co-administered or administered concomitantly with Movantik[®] include a pharmaceutically acceptable carrier.

144. RedHill has been on notice of the ’817 patent since, at the latest, the date RedHill received the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

145. On information and belief, RedHill has not altered its infringing conduct after receiving the Complaint and First Amended Complaint in *Aether Therapeutics, Inc. v. AstraZeneca AB et al.*, No. 20-cv-00381 (D. Del. 2020).

146. On information and belief, RedHill has not altered its infringing conduct after receiving notice of the ’024 patent.

147. On information and belief, RedHill knows that the Movantik[®] Label induces infringement of the ’024 patent.

148. RedHill, acting without authority, consent, right, or license of the ’024 patent, have induced, and continue to induce patients to administer and use Movantik[®], in co-administration or concomitant administration with an opioid agonist in a manner, which directly

infringes one or more claims of the '024 patent under 35 U.S.C. § 271(b). More specifically, patients directly infringe (literally and/or under the doctrine of equivalents) at least claims 1, 3, 4, 5, 7, and 9 of the '024 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

149. RedHill possessed, and continue to possess, specific intent to induce infringement by providing to the public, at a minimum, the Movantik[®] Label, which provides instructions on how to use Movantik[®] in a manner that infringes directly the '024 patent.

150. RedHill, alone and/or in concert with the other parties, has actively induced and encouraged, and continue to actively induce and encourage, medical professionals to prescribe Movantik[®] to patients, and patients to use Movantik[®] by marketing, promoting and advertising the infringing use of Movantik[®].

151. On information and belief, RedHill knows that Movantik[®] and its labeling are especially made or adapted for uses that infringe the '024 patent, that Movantik[®] is not a staple article or commodity of commerce, and that Movantik[®] and its labeling are not suitable for substantial noninfringing use, resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(c). More specifically, patients and medical professionals directly infringe (literally and/or under the doctrine of equivalents) at least claims 1, 3, 4, 5, 7, and 9 of the '024 patent by using Movantik[®], resulting in conduct that constitutes, at a minimum, patent infringement under 35 U.S.C. § 271(a).

152. RedHill's foregoing actions constitute and/or will constitute infringement of the '024 patent, active inducement of infringement of the '024 patent, and contribution to the infringement by others of the '024 patent.

153. On information and belief, RedHill has acted with full knowledge of the '024 patent and without a reasonable basis for believing that it would not be liable for infringement of the '024 patent, active inducement of infringement of the '024 patent, and/or contribution to the infringement by others of the '024 patent.

154. Plaintiff reserves the right to assert additional claims of the '024 patent that RedHill infringes.

155. Plaintiff has been damaged as a result of AstraZeneca AB's infringing conduct. AstraZeneca AB is, thus, liable to Plaintiff in an amount that adequately compensates for their infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

JURY DEMANDED

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Aether requests a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the Court to enter judgment in its favor and against RedHill as follows:

- a. finding that RedHill has infringed, contributed to and induced infringement of one or more claims of the patents-in-suit;
- b. awarding Aether damages under 35 U.S.C. § 284, or otherwise permitted by law, including damages for any continued post-verdict infringement;
- c. awarding Aether damages for the unjust enrichment of RedHill;
- d. awarding Aether pre-judgment and post-judgment interest on the damages award and costs;
- e. declaring this case exceptional pursuant to 35 U.S.C. § 285;

- f. awarding costs of this action and attorney fees pursuant to 35 U.S.C. § 285, or as otherwise permitted by the law; and
- g. awarding such other costs and further relief the Court determines to be just and equitable.

Dated: February 22, 2021

Respectfully submitted,

/s/Stamatios Stamoulis

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